



**Spill Prevention, Preparedness, and Response Program**

# **Washington State's Voluntary Program for Tankers**

**Voluntary Best Achievable Protection (VBAP) Standards and  
Exceptional Compliance Program (ECOPRO) Standards**

**November 2002** REV.  
**WDOE Publication 00-08-020**



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Abstract: A compilation of 31 standards addressing operating procedures, personnel policies, management practices, and safety technology for companies participating in Washington State's Voluntary Program for Tankers. Tanker companies meeting these standards receive public recognition for their commitment to marine safety and environmental stewardship.

This publication is also available at our website at <http://www.ecy.wa.gov/programs/spills/spills.html>.

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**Washington State Department of Ecology  
Spill Prevention, Preparedness, and Response Program**

**Washington State's Voluntary Program for Tankers**

**Voluntary Best Achievable Protection (VBAP) Standards and  
Exceptional Compliance Program (ECOPRO) Standards**

*In addition to complying with applicable federal and international standards, the owner or operator of a tanker operating in Washington State waters ensures the guidelines listed below are followed:*

VBAP Standard	ECOPRO Standard
<p><b>1. Navigation Watch - Bridge Watch Composition</b></p> <p>Guidelines for bridge watch composition:</p> <p>The navigation watch consists of at least two licensed deck officers, a helmsman, and a lookout. One of the licensed deck officers may be a state-licensed pilot when the tanker is in pilotage waters. The helmsman does not serve as a lookout. <i>Refer to the Revised Code of Washington (RCW) 88.16 Pilotage Act.</i></p> <p>a. In restricted visibility, the navigation watch consists of at least three licensed deck officers, one of whom may be a licensed pilot. Each officer is assigned primary responsibility for one of the following: Vessel navigation, collision avoidance, <b>or</b> bridge administration. (see VBAP Standard 2)</p> <p>b. The officer in charge of the navigation watch determines periods of restricted visibility and records in the deck log the time restricted visibility begins and ends.</p> <p>c. Communication between the lookout and the officer in charge on the bridge is rapid and reliable.</p> <p>d. The name of each member of the navigation watch is logged in the deck log at the time the member assumes watch-standing duties.</p>	<p><b>1. Navigation Watch - Bridge Watch Composition</b></p> <p>The ECOPRO standard is identical to the VBAP standard.</p>

VBAP Standard	ECOPRO Standard
<p><b>2. Bridge Resource Management (BRM)</b></p> <p>Guidelines for Bridge Resource Management (BRM):</p> <p>Each vessel employs a bridge resource management system for vessel navigation, collision avoidance, and bridge administration that organizes the navigation watch into a bridge team and coordinates the use of bridge equipment. The system includes, but is not limited to:</p> <ol style="list-style-type: none"> <li>Defined bridge team assignments and duties for each team member. Duties and assignments may differ for open sea transits, coastal and restricted waterway navigation, and conditions of restricted visibility;</li> <li>Written procedures for navigating with a pilot (see VBAP Standard 3);</li> <li>Written guidance that defines the responsibilities, stations, and reporting guidelines for each bridge team member in response to emergencies, including pollution incidents;</li> <li>Articulated goals, objectives, and priorities for each bridge team member;</li> <li>Clear delegation of duties, responsibilities, and authority between bridge team members;</li> <li>Clear guidance for bridge team members for understandable and situation-specific communication between members, and between the bridge team and pilot. Communication guidelines may differ for open sea transits, coastal and restricted waterway navigation, and conditions of restricted visibility;</li> <li>Comprehensive passage and voyage planning from berth to berth (see VBAP Standard 8); and</li> <li>Defined responsibilities and stations for each bridge team member for maneuvering to enter or leave designated and customary shipping lanes, anchorage, and moorage.</li> </ol>	<p><b>2. Bridge Resource Management (BRM)</b></p> <p>Company provides additional BRM training (see VBAP Standard 19), which may be shore-based or provided on board vessels, for <u>all</u> bridge watchstanders <b>AND</b> the additional training is conducted annually.</p> <p>Some examples of additional BRM training are:</p> <ul style="list-style-type: none"> <li>classroom training; and</li> <li>personal computer-based training.</li> </ul>

VBAP Standard	ECOPRO Standard
<p><b>3. Coordination With Pilots – Pilotage Checklist</b></p> <p>Guidelines for coordination with pilots:</p> <ol style="list-style-type: none"> <li>a. Pilot coordination occurs in a manner that does not interfere with the performance of the pilot’s duties.</li> <li>b. The master or officer in charge of the watch identifies for the pilot those members of the bridge team who are proficient in English and explains the responsibilities of each licensed deck officer on watch.</li> <li>c. The master or officer in charge of the watch uses a checklist that includes, at a minimum, the following: <ol style="list-style-type: none"> <li>(1) Information requested by the pilot under WAC 296-116-205 concerning vessel maneuvering characteristics, condition of navigation and communication equipment, capabilities and problems with the propulsion and steering system, and other vessel specifications;</li> <li>(2) Navigational procedures and considerations, including destination, intended route, planned speed, vessel traffic services, and tug escort requirements; and</li> <li>(3) Local conditions including expected weather, tide, current, sea conditions, and vessel traffic.</li> </ol> </li> <li>d. If conditions permit, the pilot coordination checklist may be covered during the pre-escort conference required under 33 CFR Part 168 for single-hull tankers over five thousand gross tons.</li> </ol>	<p><b>3. Coordination With Pilots – Pilotage Checklist</b></p> <p>Pilotage checklist requires more information exchange than required under the VBAP standard.</p> <p>Some examples of additional information exchange are:</p> <ul style="list-style-type: none"> <li>• Bridge team informs pilot that all equipment used for piloting is on board and ready to use; and</li> <li>• Bridge team and pilot discuss characteristics of mooring equipment including anchors and mooring lines and sequence of putting out or taking in mooring lines.</li> </ul>

VBAP Standard	ECOPRO Standard
<p><b>4. Security Rounds</b></p> <p>Guidelines for security rounds:</p> <p>Security rounds are conducted in spaces designated by the vessel’s master to identify and to correct, if feasible, safety hazards such as potential fire hazards, defective machinery, hull and bulkhead integrity, malfunctioning safety equipment, potential sources of pollution, and potentially dangerous crew activities.</p> <ol style="list-style-type: none"> <li>Security rounds are conducted when the vessel is underway, anchored, or moored.</li> <li>The master designates spaces on as much of the vessel as the master deems safe for the crew member making the round.</li> <li>Crew members making security rounds are provided appropriate training and inspection checklists (which may be posted in conspicuous locations or carried by the person making the round), and instructed to first notify the officer in charge of the watch before attempting corrective action when a hazard is noted.</li> <li>Security rounds are made at least every two hours. On tankers with functioning automated fire and flooding detection systems, the frequency of the rounds may be at least every four hours.</li> <li>The officer in charge of the watch documents the completion of each security round in the deck log or other document that is maintained on board the vessel for this purpose.</li> </ol>	<p><b>4. Security Rounds</b></p> <p>Security rounds are conducted more often than every two hours <b>OR</b> if vessels are fitted with functioning automated fire and flooding detection systems, more often than every four (4) hours.</p>
<p><b>5. Anchor Watch</b></p> <p>Guidelines for anchor watch:</p> <ol style="list-style-type: none"> <li>A licensed deck officer or other qualified person maintains a watch on the bridge at all times while the tanker is at anchor;</li> <li>The position of the vessel at anchor is continuously monitored; and</li> <li>The ships position is recorded manually or electronically at least once each hour.</li> </ol>	<p><b>5. Anchor Watch</b></p> <p>A licensed deck officer or other qualified person maintains a watch on the bridge at all times while the tanker is at anchor <b>AND</b> an additional person is on watch while at anchor during restricted visibility <b>AND</b> the ships position is recorded manually or electronically more often than hourly.</p>



VBAP Standard	ECOPRO Standard
<p><b>6. Engineering Watch</b></p> <p>Guidelines for engineering watch:</p> <p>A licensed engineering officer is in the engineering control room and in the immediate vicinity of the machinery space's emergency throttle controls if:</p> <ol style="list-style-type: none"> <li>The tanker's engineering control room is not within the machinery spaces; and</li> <li>The vessel is maneuvering to embark or disembark a pilot, docking or departing berth, or anchoring or departing anchorage.</li> </ol>	<p><b>6. Engineering Watch</b></p> <p>More than one engineering officer is on duty while underway in Washington waters <b>OR</b> the ship is equipped with automated systems for monitoring the engine room.</p> <p>Examples of automated systems for monitoring the engine room are: video monitoring devices, and extra sensors and remote read-outs for pressures, temperatures, and electrical status.</p>
<p><b>7. Fix Intervals</b></p> <p>Guidelines for fix intervals:</p> <p>The bridge team constantly monitors the vessel's position using all appropriate navigational aids to determine set and drift. Positions are recorded at fifteen-minute intervals or less, either manually or electronically.</p>	<p><b>7. Fix Intervals</b></p> <p>Fixes are recorded more frequently than every 15 minutes <b>OR</b> fixes are electronically <i>and</i> manually recorded.</p>
<p><b>8. Voyage Planning</b></p> <p>Guidelines for voyage planning:</p> <p>A comprehensive written voyage plan is developed for the tanker's trip through Washington State waters. The advice of the vessel's state-licensed pilot and varying local conditions are taken into consideration. A standard voyage plan for consecutive voyages along the same routes may be used if updated prior to the tanker's entry into state waters.</p> <p><i>Voyage Planning is continued on the next page.</i></p>	<p><b>8. Voyage Planning</b></p> <p>All voyage plans meet the VBAP standard <b>AND</b> regular voyage plan updates are made by a licensed deck officer <b>AND</b> voyage plans are prominently displayed, either electronically or posted paper copy <b>AND</b> voyage plans are retained for at least 6 months.</p>

VBAP Standard	ECOPRO Standard
<p><b>8. Voyage Planning, continued...</b></p> <p>The voyage plan addresses, at a minimum, the following:</p> <ul style="list-style-type: none"> <li>a. Waterway characteristics such as channel depth and width, turning areas, navigational obstructions, and appropriate speeds for each waterway transited based on current and up-to-date charts and navigational publications;</li> <li>b. Accuracy and dependability, and operating status, of available navigational aids, including radio-navigational aids based on current notices to mariners and other navigational publications;</li> <li>c. Environmentally sensitive areas designated and provided by the Northwest Area Committee established under 33 U.S.C. sec. 1321(j), traffic separation systems, areas-to-be-avoided, landfalls, routes expected to be transited at night, and other areas where caution should be exercised based on current and up-to-date charts, navigational publications and geographic oil spill response plans;</li> <li>d. Predicted weather, currents and tides;</li> <li>e. Expected vessel traffic;</li> <li>f. Procedures, expected communications, and times for complying with the requirements for vessel traffic services, pilotage, tug escorts, and tug assists;</li> <li>g. Emergency procedures to be used while transiting state waters for vessel casualties, pollution incidents, and personnel health and safety;</li> <li>h. Berthing and anchoring arrangements, including water depth at intended mooring or anchorage;</li> <li>i. Engineering considerations, including pre-arrival tests and inspections, planned maintenance, fuel tanks used and expected fuel consumption, stability, trim and drafts, and required ballast.</li> </ul>	<p><b>8. Voyage Planning</b></p> <p>All voyage plans meet the VBAP standard <b>AND</b> regular voyage plan updates are made by a licensed deck officer <b>AND</b> voyage plans are prominently displayed, either electronically or posted paper copy <b>AND</b> voyage plans are retained for at least 6 months.</p>

VBAP Standard	ECOPRO Standard
<p><b>9. Compass Checks</b></p> <p>Guidelines for compass checks:</p> <p>A schedule is established for frequent comparisons of the steering gyrocompass with the magnetic compass.</p> <p><i>For ECOPRO: Some examples of additional tests are: Checking gyro and magnetic headings while on ranges; comparing gyro heading with dock (pier or wharf) heading; and determination of gyro error by taking azimuths.</i></p>	<p><b>9. Compass Checks</b></p> <p>Additional equipment (such as an extra master gyrocompass, extra gyro repeaters, or extra magnetic compass) is on board <b>AND</b> additional tests are performed to verify accuracy or deviation of the compasses <b>AND</b> there is a procedure, beyond logging and posting, to inform the bridge team of known compass errors.</p>
<p><b>10. Assist Tugs at Port Angeles</b></p> <p>Guidelines for assist tugs at Port Angeles:</p> <p>A tanker carrying cargo uses at least one assist tug for anchoring and departing anchorages in the port of Port Angeles. The port of Port Angeles includes all navigable waters west of 123 degrees, 24 minutes west longitude encompassed by Ediz Hook.</p>	<p><b>10. Assist Tugs at Port Angeles</b></p> <p>An assist tug is used when the vessel is in ballast <b>IF</b> another laden or empty deep-draft vessel is anchored at Port Angeles.</p>
<p><b>11. Ship Service Generators</b></p> <p>Guidelines for ship service generators:</p> <p>Tankers without automatic stand-by switching gear for stand-by generators operate with a stand-by generator running and immediately available to assume the electrical load.</p> <p><i>Note: Under Washington's VBAP Standards, one of the pre-arrival (and pre-departure) tests and inspections is that emergency and stand-by ship service generators are started and the automatic switching gear is proven to be working. (see V BAP Standard 14)</i></p>	<p><b>11. Ship Service Generators</b></p> <p>Vessel has generators with automatic standby switching gear.</p>

VBAP Standard	ECOPRO Standard
<p><b>12. Steering Flat Inspections</b></p> <p>Guidelines for steering flat inspections:</p> <p>Engineers inspect the steering gear flat hourly, unless monitored by closed circuit television or other acceptable monitoring system.</p> <p>Some examples of other acceptable monitoring systems are: low hydraulic pressure/fluid level alarms, power failure alarms, fire and smoke alarms, or steering flat bilge alarms if applicable, etc.</p>	<p><b>12. Steering Flat Inspections</b></p> <p>Vessel has video monitoring equipment installed in the steering flat <b>OR</b> other acceptable means of monitoring <b>AND</b> the crew conducts hourly rounds of steering gear flat.</p>
<p><b>13. Maneuvering Fuel</b></p> <p>Guidelines for maneuvering fuel:</p> <p>Vessels operating on a different fuel for maneuvering switch to maneuvering fuel in advance of entering Washington State waters. Main engines are operating to capacity on fuel used for maneuvering before operating in state waters.</p>	<p><b>13. Maneuvering Fuel</b></p> <p>The ECOPRO standard is identical to the VBAP standard.</p>
<p><b>14. Pre-arrival and pre-departure tests and inspections</b></p> <p>Guidelines for pre-arrival and pre-departure tests and inspections:</p> <p>A tanker, twelve hours or less before it enters or gets underway in Washington State waters, conducts and logs in the deck or engineering log the following pre-arrival/departure tests or inspections, (as appropriate for the system):</p> <ol style="list-style-type: none"> <li>Navigation equipment, including compasses, radars, direction finders, and speed monitoring devices, are inspected. Compass errors are logged in the deck log and posted on the bridge and used by the bridge team.</li> </ol> <p><i>Pre-arrival and pre-departure tests and inspections continued on next page.</i></p>	<p><b>14. Pre-arrival and pre-departure tests and inspections</b></p> <p>Vessel has remote devices to monitor equipment subject to pre-arrival and pre-departure tests and inspections <b>OR</b> vessel conducts more tests and inspections than those required under the VBAP standard. Some examples of additional tests and inspections are listed on the next page.</p>

VBAP Standard	ECOPRO Standard
<p><b>14. Pre-arrival and pre-departure tests and inspections, continued...</b></p> <ul style="list-style-type: none"> <li>b. Emergency and stand-by ship service generators are started and the switch gear proven, at least monthly, to be working.</li> <li>c. All steering systems and local controls of the steering gear at the steering gear flat are inspected or tested, and the steering gear flat inspected for unusual conditions such as leaks, fractures, and loose connections.</li> <li>d. The main engine, or engines, is tested ahead and astern, or through the full range of pitch of controllable pitch propellers, if the tanker is so equipped.</li> <li>e. Main lubrication oil pumps are inspected or tested and ready for immediate use.</li> <li>f. Main heavy oil pumps are inspected or tested and ready for immediate use.</li> <li>g. For main engine lubrication and fuel oil systems fitted with duplex strainers, stand-by strainers are cleaned, purged, and made immediately available.</li> <li>h. Fuel sufficient to operate the main engine or engines on the transit to berth or anchorage is transferred to the main engine settler or service tanks, or both.</li> <li>i. For motor-driven tankers: <ul style="list-style-type: none"> <li>(1) Main and stand-by cooling water system circulating pumps are inspected or tested and ready for immediate use;</li> <li>(2) Intake or charge air auxiliary electric blowers, if applicable, are inspected or tested and ready for immediate use;</li> <li>(3) Starting and control air tanks are filled and ready for use;</li> <li>(4) Main and stand-by air compressors are inspected or tested and ready for immediate use; and</li> <li>(5) The starting air piping system is aligned and drained of condensate.</li> </ul> </li> </ul> <p><i>Pre-arrival and pre-departure tests and inspections continued on next page</i></p>	<p><b>14. Pre-arrival and pre-departure tests and inspections</b></p> <p>Vessel has remote devices to monitor equipment subject to pre-arrival and pre-departure tests and inspections <b>OR</b> vessel conducts more tests and inspections than those required under the BAP standard.</p> <p>Some examples of additional pre-arrival and pre-departure tests and inspections are:</p> <ul style="list-style-type: none"> <li>• Test bridge VHF radio sets to ensure they are operating correctly and set on channels that will be used for port control, pilot boat, tug, and vessel-to-vessel communications;</li> <li>• Check storage batteries for emergency lighting and power systems in vessel control and machinery spaces;</li> <li>• Check pilot ladder and/or pilot hoisting gear to ensure it is adequate and operating correctly; and</li> <li>• Check all clocks in pilot house to ensure they are correctly set and synchronized.</li> </ul>

VBAP Standard	ECOPRO Standard
<p><b>14. Pre-arrival and pre-departure tests and inspections, continued...</b></p> <p>j. For steam-driven tankers:</p> <ul style="list-style-type: none"> <li>(1) Spare boiler burners are prepared and ready for immediate use;</li> <li>(2) Forced draft fans are inspected or tested and ready for immediate use; and</li> <li>(3) Main and stand-by feed water pumps are inspected or tested and ready for immediate use.</li> </ul>	<p><b>14. Pre-arrival and pre-departure tests and inspections</b></p> <p>Vessel has remote devices to monitor equipment subject to pre-arrival and pre-departure tests and inspections <b>OR</b> vessel conducts more tests and inspections than those required under the VBAP standard. Examples of additional tests and inspections on previous page.</p>
<p><b>15. Emergency Procedures</b></p> <p>Guidelines for emergency procedures:</p> <p>a. Station bills are posted and clearly state crew assignments and duties for the following emergencies:</p> <ul style="list-style-type: none"> <li>(1) Shipboard fire;</li> <li>(2) Orders to abandon ship;</li> <li>(3) Man overboard; and</li> <li>(4) Oil spill response.</li> </ul> <p>b. Written procedures are established for responding to:</p> <ul style="list-style-type: none"> <li>(1) Collisions and allisions;</li> <li>(2) Groundings and strandings;</li> <li>(3) Hull breach, structural failure and foundering;</li> </ul> <p><i>Emergency Procedures continued on next page.</i></p>	<p><b>15. Emergency Procedures</b></p> <p>An emergency squad organization is in place <b>AND</b> crew members participate in an advanced emergency preparedness training program for additional emergencies.</p> <p>Some examples of additional emergencies are:</p> <ul style="list-style-type: none"> <li>• Helicopter evacuation;</li> <li>• Tank or void space evacuation; and</li> <li>• Flooding, including pumproom and engine room flooding.</li> </ul>

VBAP Standard	ECOPRO Standard
<p><b>15. Emergency Procedures, continued...</b></p> <ul style="list-style-type: none"> <li>(4) Loss of propulsion;</li> <li>(5) Loss of steering;</li> <li>(6) Loss of electrical power; and</li> <li>(7) Gyrocompass malfunction.</li> </ul> <p>c. Written procedures are established outlining preparations for:</p> <ul style="list-style-type: none"> <li>(1) Emergency towing;</li> <li>(2) Responding to loss of throttle control from the bridge; and</li> <li>(3) Weather that poses hazards to personnel, the vessel, or equipment.</li> </ul>	<p><b>15. Emergency Procedures</b></p> <p>An emergency squad organization is in place <b>AND</b> crew members participate in an advanced emergency preparedness training program for additional emergencies.</p> <p>Some examples of additional emergencies are:</p> <ul style="list-style-type: none"> <li>• Helicopter evacuation;</li> <li>• Tank or void space evacuation; and</li> <li>• Flooding, including pumproom and engine room flooding.</li> </ul>
<p><b>16. Event Reporting</b></p> <p>Guidelines for event reporting:</p> <p>If the vessel is involved in an event, as defined below, <u>while in Washington State waters</u>:</p> <p>a. An event report is submitted to the Department of Ecology that describes:</p> <ul style="list-style-type: none"> <li>(1) The date time and location of each event;</li> <li>(2) The weather conditions at the time of the event;</li> <li>(3) The vessel operations underway at the time;</li> </ul> <p><i>Event Reporting continued on next page.</i></p>	<p><b>16. Event Reporting</b></p> <p>The ECOPRO standard is identical to the VBAP standard.</p>

VBAP Standard	ECOPRO Standard
<p><b>16. Event Reporting, continued...</b></p> <ul style="list-style-type: none"> <li>(4) The identity of any facilities and other vessels involved in the event;</li> <li>(5) The type and amount of any oil spilled, and the estimated amount recovered;</li> <li>(6) A list of any government agencies to which the event was reported;</li> <li>(7) A brief analysis of any known causes and contributing factors for each event that considers, at a minimum, human error, equipment or technology failure, and maintenance or inspection deficiencies;</li> <li>(8) A description of measures taken to prevent a reoccurrence of each event, including changes to operating or maintenance procedures, personnel policies, vessel crew and organization, and the vessel's technology.</li> </ul> <p>b. The position plotting records, whether written, typed, electronically, or otherwise recorded, and the comprehensive written voyage plan are not erased, discarded, or altered.</p> <p>c. "Event" means a:</p> <ul style="list-style-type: none"> <li>(1) Collision;</li> <li>(2) Allision;</li> <li>(3) Near-miss incident which means a pilot, master, or other person in charge of navigating a tank vessel successfully takes action of a non-routine nature to avoid a collision with another ship, structure, or aid to navigation, or grounding of the vessel, or damage to the environment;</li> <li>(4) Marine casualty which means those casualties described in 46 C.F.R. sec. 4.05-1, except subsections (a)(5), (a)(6) and (b), regardless of vessel type, nation of registry, or location;</li> </ul> <p><i>Event Reporting continued on next page.</i></p>	<p><b>16. Event Reporting</b></p> <p>The ECOPRO standard is identical to the VBAP standard.</p>



VBAP Standard	ECOPRO Standard
<p><b>16. Event Reporting, continued...</b></p> <p>(5) Disabled vessel which means an accidental or intentional grounding, failure of the propulsion or primary steering systems, failure of a component or control system that reduces the vessel's maneuverability, or fire, flood, or other incident that affects the vessel's seaworthiness or fitness for service; or</p> <p>(6) Spills of oil from a tank vessel.</p>	<p><b>16. Event Reporting</b></p> <p>The ECOPRO standard is identical to the VBAP standard.</p>
<p><b>17. Comprehensive Training Program</b></p> <p><i>The comprehensive training program includes familiarization training (VBAP Standard 18), position-specific training (VBAP Standard 19), and refresher training (VBAP Standard 20).</i></p> <p>In addition to complying with the 1995 Amendments to the Annex of the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers, 1978 (STCW), and Federal Standards, tank vessels operating in Washington State waters meet the following training standards:</p> <p>Within three years from the date of employment by the owner or operator, a crew member completes the company's training program which includes instruction on the use of job-specific equipment, installed technology, lifesaving equipment and procedures, and oil spill prevention and response equipment and procedures.</p>	<p><b>17. Comprehensive Training Program</b></p> <p>Required training is completed within less than three years of hire <b>OR</b> the comprehensive training program includes additional topics or elements. (See VBAP Standards 18 and 19 for examples of additional topics.)</p>
<p><b>18. Familiarization (orientation) Training</b></p> <p>Guidelines for familiarization (orientation) training:</p> <p>Before being assigned to shipboard duties, crew members receive familiarization training in personal survival techniques including:</p> <p>a. Communicating with other persons on board on elementary safety matters and understanding safety information symbols, signs and alarm signals;</p> <p><i>Familiarization (orientation) Training continued on next page.</i></p>	<p><b>18. Familiarization (orientation) Training</b></p> <p>Familiarization (orientation) training includes additional topics.</p> <p>Some examples of additional topics are listed on the next page.</p>

VBAP Standard	ECOPRO Standard
<p><b>18. Familiarization (orientation) Training, continued...</b></p> <p>b. What to do if:</p> <ul style="list-style-type: none"> <li>(1) a person falls overboard,</li> <li>(2) fire or smoke is detected, or</li> <li>(3) the fire or abandon ship alarm is sounded;</li> </ul> <p>c. Identification of muster and embarkation stations and emergency escape routes;</p> <p>d. Location and donning of life-jackets;</p> <p>e. Raising the alarm and basic knowledge of the use of portable fire extinguishers;</p> <p>f. Taking immediate action upon encountering an accident or other medical emergency before seeking further medical assistance on board; and</p> <p>g. Closing and opening the weathertight and watertight doors fitted in the particular ship, other than those for hull openings.</p>	<p><b>18. Familiarization (orientation) Training</b></p> <p>Familiarization (orientation) training includes additional topics.</p> <p>Some examples of additional topics are:</p> <ul style="list-style-type: none"> <li>• Office-based orientation in the working relationship between shore-based vessel operations and shipboard operations (for all crew members);</li> <li>• Drug and alcohol awareness training and orientation in company policy on drug and alcohol abuse (for all crew members);</li> <li>• Self-contained breathing apparatus (for example, MSA or Scott Airpak) training, including fit testing (for cargo watch standers); and</li> <li>• Orientation and training in looking for, and reporting, oil in the water around the ship (for all crew members).</li> </ul>

VBAP Standard	ECOPRO Standard
<p><b>19. Position-Specific Training</b></p> <p>Guidelines for position-specific training:</p> <p>Crew members complete training specific to their position.</p> <p>a. The vessel's master, chief mate, chief engineer, and senior assistant engineer are trained in shipboard management.</p> <p>b. The vessel's master and other licensed deck officers are trained in:</p> <ul style="list-style-type: none"> <li>(1) Bridge Resource Management (BRM);</li> <li>(2) Automated Radar Plotting Aids (ARPA);</li> <li>(3) Shiphandling;</li> <li>(4) Crude oil washing, if the vessel is so equipped;</li> <li>(5) Inert gas systems, if the vessel is so equipped;</li> <li>(6) Cargo handling for all cargo types carried, including associated hazards with each cargo type, and hull stress during cargo transfer;</li> <li>(7) Oil spill prevention and response responsibilities; and</li> <li>(8) Shipboard fire fighting.</li> </ul> <p><i>Position-Specific Training continued on next page.</i></p>	<p><b>19. Position-Specific Training</b></p> <p>Position-specific training is provided more frequently than every five years, as required under the Refresher Training standard (VBAP Standard 20) <b>OR</b> additional training topics are included.</p> <p>Examples of additional training topics are:</p> <ul style="list-style-type: none"> <li>• Engine Room Resource Management (ERM) for all licensed and unlicensed engine room personnel.</li> <li>• Advanced marine fire fighting for all licensed officers;</li> </ul> <p><i>Note: For examples of advanced marine firefighting topics, see Table A-VI/3 in Section A-VI/3 of the STCW 95 Code.</i></p>

VBAP Standard	ECOPRO Standard
<p><b>19. Position-Specific Training, continued...</b></p> <p>c. The vessel's licensed engineering officers are trained in:</p> <ul style="list-style-type: none"> <li>(1) Inert gas systems, if the vessel is so equipped;</li> <li>(2) Vapor recovery systems, if the vessel is so equipped;</li> <li>(3) Crude oil washing, if the vessel is so equipped;</li> <li>(4) Oil spill prevention and response responsibilities; and</li> <li>(5) Shipboard fire fighting.</li> </ul> <p>d. Unlicensed ratings are trained in bridge resource management if assigned bridge responsibilities, and/or in cargo handling if assigned cargo-handling responsibilities. All ratings are trained in oil spill prevention and response, and shipboard fire fighting.</p>	<p><b>19. Position-Specific Training</b></p> <p>Position-specific training is provided at more frequent intervals <b>OR</b> additional training topics are included.</p> <p>Examples of additional training topics are listed on previous page.</p>
<p><b>20. Refresher Training</b></p> <p>Guidelines for refresher training:</p> <ul style="list-style-type: none"> <li>a. Crew members receive refresher training at least once every five years;</li> <li>b. Refresher training includes examination of the crew member's skills to determine his or her ability to safely and effectively perform in the position assigned; and</li> <li>c. Personnel who fail to undergo refresher training within five years, repeat the position specific training program.</li> </ul>	<p><b>20. Refresher Training</b></p> <p>Any training identified as necessary to improve performance is accomplished within one year of being identified.</p>

VBAP Standard	ECOPRO Standard
<p><b>21. Shipboard Emergency Drills</b></p> <p>Guidelines for shipboard emergency drills:</p> <p>Vessels conduct and log in the deck log emergency drills conducted in the manner and frequency required by 46 C.F.R. § 199.180.</p> <p>In addition, drills are conducted and logged at least quarterly for:</p> <ul style="list-style-type: none"> <li>a. Oil spill response;</li> <li>b. Emergency steering, that complies with the International Convention of Safety of Life at Sea, Chapter V, Regulation 19-2(d);</li> <li>c. Loss of propulsion;</li> <li>d. Loss of electrical power;</li> <li>e. Emergency towing; and</li> <li>f. Man overboard.</li> </ul>	<p><b>21. Shipboard Emergency Drills</b></p> <p>A formal critique of the drill is presented to all crew members after each drill <b>AND</b> items requiring follow-up corrective action are logged <b>AND</b> a crew person is assigned to take the required corrective action, if identified.</p>
<p><b>22. Drug and Alcohol Policies</b></p> <p>Guidelines for drug and alcohol policies:</p> <p>All tankers operating in Washington State waters comply with 33 CFR Part 95 and 46 CFR Parts 4 and 16, except 46 CFR sec. 16.500.</p> <p>The owner's or operator's policies, procedures, and practices also ensure that:</p> <ul style="list-style-type: none"> <li>a. A person neither consumes, nor is under the influence of, alcohol on a tanker while in state waters unless that person is a passenger who does not perform, and will not perform, any duty on the tanker in Washington State waters; and</li> <li>b. A person neither consumes, nor is under the influence of, illicit drugs on a tanker while in Washington State waters.</li> </ul>	<p><b>22. Drug and Alcohol Policies</b></p> <p>Vessel personnel are trained in both drug and alcohol abuse awareness and in drug and alcohol testing (for post accident and probable cause) <b>OR</b> random testing is conducted more frequently.</p>

VBAP Standard	ECOPRO Standard
<p><b>23. Personnel (Performance) Evaluation System</b></p> <p>Guidelines for personnel (performance) evaluation system:</p> <p>A tanker operating in Washington State waters has a program for evaluation of each member of a vessel's crew, that includes the following elements:</p> <ol style="list-style-type: none"> <li>The vessel's master, chief engineer, and officers monitor the fitness for duty of crew members. Any crew member determined to be unfit for duty is immediately relieved of duties.</li> <li>An annual (at least) performance review for each permanent crew member provides a job performance evaluation and identifies any training needed to safely and effectively perform that crewmember's assigned duties.</li> </ol>	<p><b>23. Personnel (Performance) Evaluation System</b></p> <p>All permanent crew members (licensed officers and ratings) who have over one year of service and who have demonstrated satisfactory performance, receive performance evaluations annually <b>AND</b> any crew member whose performance indicates the need for training, will complete this training within a one year period.</p>
<p><b>24. Work Hours</b></p> <p>Guidelines for work hours:</p> <p>Crew members comply with OPA 90 work hour restrictions or STCW 95 rest period requirements. Company policies ensure crew members are well-rested and able to perform their duties.</p> <p>Work hours are documented and maintained, and if requested, made available to the Department of Ecology.</p>	<p><b>24. Work Hours</b></p> <p>Work hour restrictions exceed OPA 90 requirements or rest periods exceed STCW 95 requirements <b>OR</b> extra licensed watchstanders are available.</p>
<p><b>25. Language Proficiency</b></p> <p>Guidelines for language proficiency:</p> <ol style="list-style-type: none"> <li>All licensed deck officers and the vessel's designated person-in-charge under 33 CFR sec. 155.700 are proficient in English;</li> <li>A working language understood and spoken by subordinate officers and unlicensed crew is used on board; and</li> <li>All operating manuals, directives, written instructions, placards and station bills are printed in a language understood and spoken by both the vessel's licensed officers and unlicensed crew.</li> </ol>	<p><b>25. Language Proficiency</b></p> <p>Company verifies proficiency in English during pre-hiring screening <b>AND</b> all business between ships and shoreside staff is conducted in English <b>AND</b> key ratings (unlicensed personnel) such as helmsmen and ratings that stand cargo watches, are required to be proficient in English.</p>

VBAP Standard	ECOPRO Standard
<p><b>26. Record Keeping: Training Records and Work Hour Records</b></p> <p>Guidelines for record keeping (training records and work hour records):</p> <p>A tanker operating in Washington State waters maintains the following records:</p> <ul style="list-style-type: none"> <li>a. <i>Training Records.</i> Detailed training records are maintained for all crew on each vessel. The records include the training required to obtain a license or merchant marine document, completion dates, and performance evaluations of the training described in the training section. Personnel training records are maintained either on the vessel where the person is assigned or at a central location. If the owner or operator maintains personnel training records, the owner or operator will provide the Department of Ecology any requested records within seventy-two hours of receiving a request for the record.</li> <li>b. <i>Work Hour Records.</i> Compliance with applicable federal work hour requirements is documented on board the vessel and, if requested, provided to the Department of Ecology.</li> </ul>	<p><b>26. Record Keeping: Training Records and Work Hour Records</b></p> <p>The ECOPRO standard is identical to the VBAP standard.</p>
<p><b>27. Vessel Visitation</b></p> <p>Guidelines for vessel visitation:</p> <ul style="list-style-type: none"> <li>a. Quarterly visits are conducted by company management, such as port captains or port engineers, to review shipboard management and operations with the vessel master and chief engineer, and provide guidance in correcting identified problem areas.</li> <li>b. The time and date of the vessel visitation are recorded in a shipboard log, and findings are properly documented.</li> </ul>	<p><b>27. Vessel Visitation</b></p> <p>Vessel visitation is conducted more frequently than quarterly.</p>

VBAP Standard	ECOPRO Standard
<p><b>28. Planned Maintenance (PM) Program</b></p> <p>Guidelines for a planned maintenance (PM) program:</p> <p>A planned maintenance program for the vessel's navigation, propulsion, steering, communications, electrical, and cargo handling systems that includes at a minimum:</p> <ol style="list-style-type: none"> <li>Preventive maintenance for each system according to the procedures and recommended frequency of the machine's or equipment's manufacturer;</li> <li>Annual inspections of each system; and</li> <li>Inventory control and maintenance of necessary replacement parts.</li> </ol>	<p><b>28. Planned Maintenance (PM) Program</b></p> <p>Selected systems are inspected more frequently than annually if appropriate <b>AND</b> PM system is at least partially computer-based <b>AND</b> all licensed officers who use the PM system are determined to be competent in PM procedures.</p>
<p><b>29. Hull Inspection Plans</b></p> <p>Guidelines for hull inspection plans:</p> <ol style="list-style-type: none"> <li>Critical areas of a vessel's holds (tanks), piping, and hull are visually inspected annually and thickness is gauged where structural integrity is questioned. Any deficiencies are corrected;</li> <li>Corrosion is noted, reduction measures are identified, and corrosion reduction measures are scheduled; and</li> <li>Corrective action is documented and this documentation is maintained on board.</li> </ol>	<p><b>29. Hull Inspection Plans</b></p> <p>The company has dedicated personnel who perform inspections of critical area more frequently than annually <b>AND</b> company has shoreside personnel responsible for implementation of inspections of critical areas.</p>



VBAP Standard	ECOPRO Standard
<p><b>30. Preventive Maintenance Documentation</b></p> <p>Guidelines for preventive maintenance documentation:</p> <ul style="list-style-type: none"> <li>a. Surveys of the holds (tanks), piping, and hull by the vessel's classification society, and annual inspections or surveys by any other independent entity, are documented; and</li> <li>b. Any reports generated are retained on board.</li> </ul>	<p><b>30. Preventive Maintenance Documentation</b></p> <p>Licensed officers who use a particular system are determined to be competent in document control procedures for that particular system, <b>AND</b> the company uses an electronically-archived documentation maintenance system, showing all expiration dates and other significant data.</p>
<p><b>31. Technology – Navigation Equipment</b></p> <p>Guidelines for technology – navigation equipment:</p> <p>A tank vessel operating in Washington State waters has;</p> <ul style="list-style-type: none"> <li>a. a Global Positioning System (GPS); and</li> <li>b. functional emergency towing gear.</li> </ul>	<p><b>31. Technology – Navigation Equipment</b></p> <p>The ECOPRO standard is identical to the VBAP standard.</p>